

**REMARKS**

Claims 7-8, 10-22, 24 and 28-37 are currently pending in the present Application.

The Applicant wishes to thank the Examiner for the indication that claims 11-16 and 19-20 recite patentable subject matter. For the reasons set forth below, the Applicant believes these claims' base and intervening claims are allowable. Accordingly, the Applicant respectfully declines the invitation to place claims 11-16 and 19-20 into independent form at this time.

Rejections under 35 U.S.C. § 103(a) include:

- Claims 7-8 and 10 as unpatentable over U.S. Patent No. 5,825,759 to Liu ("Liu") in view of U.S. Patent No. 6,363,323 to Jones ("Jones") and U.S. Patent No. 5,493,291 to Brüggemann ("Brüggemann"), in further view of U.S. Patent No. 6,282,412 to Lyons ("Lyons");
- Claims 17-18, 21, 28-33 and 36-37 as unpatentable over Liu and Jones or Brüggemann and U.S. Patent No. 5,530,917 to Andersson, *et al.* ("Andersson") or U.S. Patent No. 6,185,413 to Mueller, *et al.* ("Mueller");
- Claim 22 as unpatentable over Liu, Jones, Brüggemann and Andersson in further view of Mueller; and
- Claim 24 as unpatentable over Liu in view of Mueller and U.S. Patent No. 6,125,278 to Wieczorek, *et al.* ("Wieczorek").

The following addresses the pending rejections.

**1. The Combination of Liu, Jones and Brüggemann Is Improper.**

As a threshold matter, the Applicant traverses the pending § 103(a) rejections based on the combination of Liu, Jones and Brüggemann, on the grounds that one of ordinary skill in the art, seeking to solve the problems addressed by the present invention, would not have discerned any suggestion or any motivation to combine such widely disparate references. Instead, the pending rejections appear to be based on impermissible hindsight, where, instead of determining whether the prior art suggested or provided a motivation to combine the references to obtain the present invention, the present claims appear to have been used in a “checklist” manner to compile a list of references and claim limitations.

The present invention is directed to efficient and cost-effective management of mobile communications *at a mobile* communications device in a vehicle as it traverses a planned travel route. Rather than merely shifting to the next available wireless signal when passing between wireless sources, the present invention evaluates the availability of upcoming communications options at the mobile communications device location, and determines whether to switch to a different communications option based on a variety of factors, including an evaluation as to whether shifting to the next available communications option is desirable considering what other options may subsequently will be available.<sup>1</sup>

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<sup>1</sup> The Applicant notes that the present specification and figures makes plain that “communications options” are different wireless communications systems, such as wide area networks, satellite networks, local area networks. Based on the content of the specification and drawings, as well as the prosecution record in this case, there should  
(Footnote continued...)

The cited references contain no teaching, suggestion or motivation, express or implied, for combination to obtain this invention:

The Liu reference describes how a *service provider* can arrange non-mobile *facilities* to make services available to a mobile communications user.

The Jones reference describes a *vehicle location reporting system*, with reports automatically sent from the vehicle over a cellular phone link.

The Brüggemann reference describes *fixed transmitters* buried in a road which pass information to passing vehicles.

None of these references would be considered by one of ordinary skill attempting to address *selection of a preferred communications option by a mobile communications device*. For instance, because Liu focuses on arrangement of *service provider* resources, one of ordinary skill would not have looked to this reference in the first place as a basis for providing techniques for *mobile device* selection between various communications options along a route. Nor is there any suggestion or motivation to combine this service provider-oriented reference with a one-way position reporting system (Jones) which teaches nothing about mobile device communications options selection.

Jones is cited as teaching a database having route data, including predetermined location and time data which allows the Jones system to determine whether to send out a report that the vehicle is off-schedule. There is

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be no question that merely "handing off" of a communications link within the same wireless communications system -- such as a handing-off a call between cellular towers in the same cellular communications option -- is not a selection of a different "option."

no suggestion in either Jones or Liu to insert Jones' route/schedule database into Liu to provide a communications option selection database; indeed, these references are so fundamentally inapposite that one of ordinary skill would not have seen anything in either reference to suggest Liu's service *provider*-side resource deployment system could even be modified to provide a *mobile device-based* solution to the problems addressed by the present invention.

Similarly, one of ordinary skill, attempting to optimize communications options selection by a *mobile device* would have had no suggestion or motivation to combine Brüggemann with Liu. Brüggemann teaches embedding transponders in a road, and as a vehicle passes over the transponders, passing information to the vehicle (*e.g.*, street names, speed limits, etc.) – all within the same wireless system shared by all the transponders. Even if combined with Liu, Brüggemann thus offers nothing other than a means to transfer information to a passing vehicle, *i.e.*, even if combined with Liu, there would still be no hint in the modified Liu system of the present invention's *mobile device* communications option selection system.

In view of the lack of any teaching, suggestion, or motivation to combine or modify such disparate references, and the failure to obtain the present invention mobile-device communications option selection system even if the references were combined, the Applicant respectfully submits that a *prima facie* case of obviousness has not been established under § 103(a). Reconsideration and withdrawal of the pending § 103(a) rejections is therefore respectfully requested.

**2. The Liu Reference Fails to Teach the Features For Which It Is Cited**

The Applicant respectfully traverses the pending rejections based on Liu on the grounds that this reference fails to teach or suggest all the features of the present invention for which it is cited.

In the April 8, 2004 Preliminary Amendment, the Applicant amended the claims to more specifically recite features of the present invention. Among the amendments were limitations which require: that the determination of where the mobile communication device is on its route be performed at the mobile communications device; and that the determination as to whether to switch from a first wireless communication option to a second is based not only on the communications options to be available at the next boundary, but also on the wireless communications options that will be available further along the route. Claim 7. Similar limitations are present in independent claims 21 and 28.

The Liu reference is cited as teaching limitation (b) of claim 7, “determining at the mobile communications device where on the route that the mobile communications device is at as it traverses the route.” April 29, 2004 Office Action at 2 (citing Liu Abstract). The Liu Abstract discusses an algorithm for predicting where a mobile user may be located. The detailed description in Liu confirms that the execution of the algorithm is performed on the service provider’s side of the wireless network, and is used to deploy the service provider’s network resources so that they will be available to the mobile user when the mobile user reaches the predicted location. Thus, the cited portion of Liu fails to disclose or suggest “determining *at the mobile communications device*

where on the route” the mobile device is located.

Liu is also cited as disclosing determining whether to switch from a first one of the wireless communications options presently being used to a second one when the device approaches a boundary of a coverage area. Limitation (d) of claim 7 includes additional features beyond those noted in the Office Action. The full text of limitations (d) reads: “determining whether to switch from a first one of the wireless communication options presently being used to a second one of the wireless communication options when the mobile communication device approaches a boundary of a coverage area of one of the wireless communication options *based on the wireless communication options available once the boundary is crossed and those that will be available further along the route.*” Liu fails to disclose the features recited in limitation (d) for at least two reasons.

First, Liu does not disclose determining whether to switch between communications options. The Abstract is cited as teaching this feature, but there is nothing in the Abstract discussing selection of different communications options. The Liu detailed disclosure similarly does not disclose such a selection. While the existence of different communications link types are noted (*e.g.*, Fig. 23 shows “TDMA/CDMA RADIO” adjacent to the link between a mobile terminal and the network), there is no discussion of *switching* between these communications types.<sup>2</sup> In other words, the listing of different links in Liu

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<sup>2</sup> As discussed above, to the extent Liu suggests conventional switching between cells of the same communications option, this is not a suggestion of switching between different communications options.

represents nothing more than the well-known fact that mobile devices can use a variety of communications links, where the typical mobile device uses only one type of communications link (*e.g.*, cellular, satellite, WAN). Thus, Liu does not disclose either switching between different communications options, or doing so at the mobile device.

Another reason Liu fails to support the pending rejections is there is nothing in Liu contains nothing which discloses or suggests the latter portion of limitation (d) where the determination of whether to switch from one wireless communication option to another is “*based on the wireless communication options available once the boundary is crossed and those that will be available further along the route.*” Liu is simply silent on this feature of the present invention.

In view of the foregoing, the Applicant respectfully submits that the pending § 103(a) rejections. Reconsideration and withdrawal of the pending § 103(a) rejections of claims 7-8, 10, 17-18, 21-22, 24 and 28-37 is respectfully requested.

### **CONCLUSION**

In view of the foregoing remarks, the Applicant respectfully submits that claims 7-8, 10-22, 24 and 28-37 are allowable over the cited references. Early and favorable consideration and issuance of a Notice of Allowance for these claims is respectfully requested.

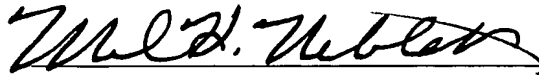
If there are any questions regarding this amendment or the application in general, a telephone call to the undersigned would be appreciated since this

should expedite the prosecution of the application for all concerned.

If necessary to effect a timely response, this paper should be considered as a petition for an Extension of Time sufficient to effect a timely response, and please charge any deficiency in fees or credit any overpayments to Deposit Account No. 05-1323 (Docket #1844/50414MI).

Respectfully submitted,

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